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ABSTRACT

The state of Washington is moving towards the assumption of the full costs of public school student transportation. This move has increased interest at the state level in transportation costs originating at the local district level. These costs have been relatively high in the Seattle school district, complicated by the city's geographic and demographic characteristics and traffic flow patterns. The city's ethnic and cultural diversity adds the difficulties of busing to achieve racial balance and to provide adequate bilingual education. Transportation costs projected for 1978-79 were $1,222 for each special education pupil, $420 per pupil in the desegregation program, and $351 per pupil for those transported because they lived over two miles from their schools. This document discusses these costs and other factors in Seattle's student transportation program, including the ramifications of the contracts with school bus and city bus companies. An addendum treats the rationale behind transportation decision-making in greater detail, using five examples from the Seattle district. (Author/PGD)

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AN EXPLANATION OF PUPIL TRANSPORTATION COSTS SEATTLE SCHOOL DISTRICT NO. 1

REPORT NO. 78-29

AUGUST 1978

LARRY COLLISTER

Department of
Management Information Services

SEATTLE
PUBLIC
SCHOOLS

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AN EXPLANATION OF PUPIL TRANSPORTATION COSTS

SEATTLE SCHOOL DISTRICT NO. 1

INTRODUCTION

The State of Washington is moving towards the assumption of the full costs of public school student transportation. As activity in this direction continues, the State of Washington has an increasing concern about costs originating at the local district level.

It is unreasonable to expect that the State would assume those costs without knowing for what it was paying. One might reasonably expect that the State would establish standards so that available funds would be equitably distributed, providing equal opportunities for all the children.

There has been an awareness on the part of citizens and legislators of the high costs of transportation in Seattle. The whole matter of funding K-12 state-wide student transportation costs has been referred to the Legislative Budget Committee. The Seattle School District represents a significant part of these costs, and therefore deserves special attention from the Committee and from other interested persons.

The purpose of this paper, then, is to explain the costs of the pupil transportation program in the Seattle School District.

BACKGROUND

Geography. Seattle, Washington, with a 1970 population of 530,831 ranks as the 17th largest city in the nation. It is situated on 91.6 square miles of land, between Lake Washington and Puget Sound. Its entire eastern boundary is fresh water and its western boundary is salt water. The shape of its land masses is somewhat like an hourglass, constricted and narrow at the middle. At Yesler Street, the distance between Elliott Bay and Lake Washington is only 2¼ miles. The Interstate Highway, I-5, bisects the city from north to south. A ship canal between the Lake and the Sound separates the north from the south; a navigable waterway separates West Seattle from the remainder of the city. There are a number of steep hills which affect the patterns of automobile and pedestrian traffic. Many streets and sidewalks are discontinued where the slopes are too steep for automobile or pedestrial traffic. In certain areas, there is a complete absence of safe walkways. Seattle experiences a horrendous flow of traffic from people who live outside the city. The resulting pattern of arterials carrying heavy commuter traffic into and out of the city creates a number of safety problem areas where children cannot walk reasonably free of hazard to their school of enrollment. Average speeds of buses in Seattle are only 12.5 M.P.H., because of stop signs and other traffic interruptions.

Ethnic Composition. Seattle is a city of unusual ethnic diversity. It is the closest seaport to Japan. The 1970 census reports that 9,986 (1.9%) of its residents were of Japanese ancestry; 6,271 (1.2%) were Chinese; 5,830 (1.1%) were Pilipino; 4,123 (0.8%) were American Indian. The largest minority were Blacks, 37,868 (7.1%).

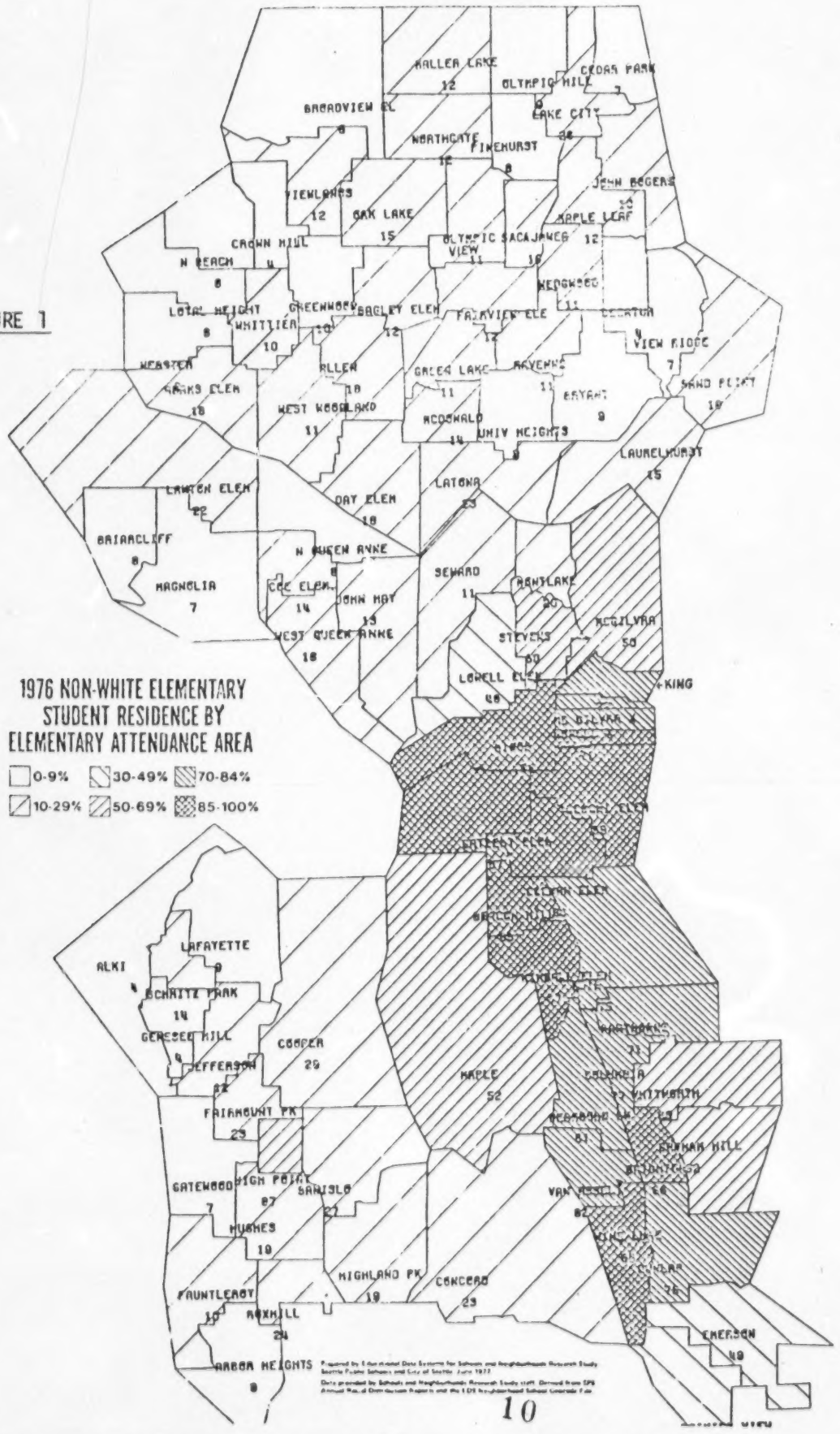
The diversity of the city is reflected in the student enrollment in the schools. On December 10, 1977, there were 5,668 Asians (9.7%), 1,682 American Indian/Alaskan Natives (2.9%), 10,690 Blacks (18.3%), 2,193 Hispanics (3.8%), and 38,120 Whites (65.3%). The total minority enrollment of the schools was 34.7%.

While residences of members of ethnic minority groups are scattered over the city, the great concentration of minority residences is found in the Central Area, and in the Southeast Corridor of the city. Figure 1 shows the percentage of non-white elementary student residence in each elementary school attendance area of the City. This map is a dependable indicator of the locations of ethnic minorities.

Language diversity. There has always been a wide cultural diversity in terms of the number of languages spoken in Seattle. In 1970, when the census takers asked residents the question, "What language was spoken in your home as a child?" 138,000 (26%) replied by naming a language other than English. Seattle today is a seaport city, with many non-English speaking persons migrating and adopting this city for their own. In recent years, substantial numbers of Chinese, Vietnamese and Samoans have emigrated to Seattle.

Bilingual. An order of the United States Office of Civil Rights, based on the Supreme Court decision Lau v. Nichols, requires the Seattle School District to offer equal educational opportunities to all limited English speaking students. There are about 1,400 of these students representing more than 45 primary languages. Figure 2 illustrates the locations of the residences of these students. Parents of these students are more concerned than most that these students not be assigned to distant

FIGURE 1


1976 NON-WHITE ELEMENTARY STUDENT RESIDENCE BY ELEMENTARY ATTENDANCE AREA
0-9%
10-29%
30-49%
50-69%
70-84%
85-100%
KING
KELLER LAKE
12
OLYMPIC HILL
CEDAR PARK
BROADVIEW EL
LAKE CITY
NORTHGATE
PINEHURST
JOHN ROGERS
VIEWLANDS
12
OAK LAKE
15
MAPLE LEAF
CROWN HILL
N BEACH
OLYMPIC VIEW
SACAJAWEA
12
WEDGWOOD
LOYAL HEIGHT
WHITTIER
GREENWOOD
BAGLEY ELEM
FAIRVIEW ELE
LAURELHURST
VIEW RIDGE
7
WEBSTER
HAWKS ELEM
18
ALLEN
GALEN LAKE
RAINIER
BRYANT
SAND POINT
10
WEST WOODLAND
MCDONALD
UNIV HEIGHTS
LAURELHURST
15
LAWTON ELEM
22
DAY ELEM
18
LATONA
23
BRIARCLIFF
8
N QUEEN ANNE
MAGNOLIA
7
CEC ELEM.
14
JOHN MAY
13
SEWARD
11
RENTLAKE
20
WEST QUEEN ANNE
18
STEVENS
20
MCGILVRA
50
LOWELL ELEM
68
LAFAYETTE
9
ALKI
SCHMITZ PARK
14
GERSEVE HILL
9
COOPER
29
JEFFERSON
22
MAPLE
52
FAIRMOUNT PK
25
WHITWORTH
GATEWOOD
7
HIGH POINT
87
SANISLO
27
VAN ASSE
82
HUGHES
10
HIGHLAND PK
19
CONCORD
23
FAUNTLEROY
10
ROXHILL
24
ARBOR HEIGHTS
8
EMERSON
49

Seattle Public Schools

Magnet School Sites & Minority Isolated High School Attendance Areas

FIGURE 2

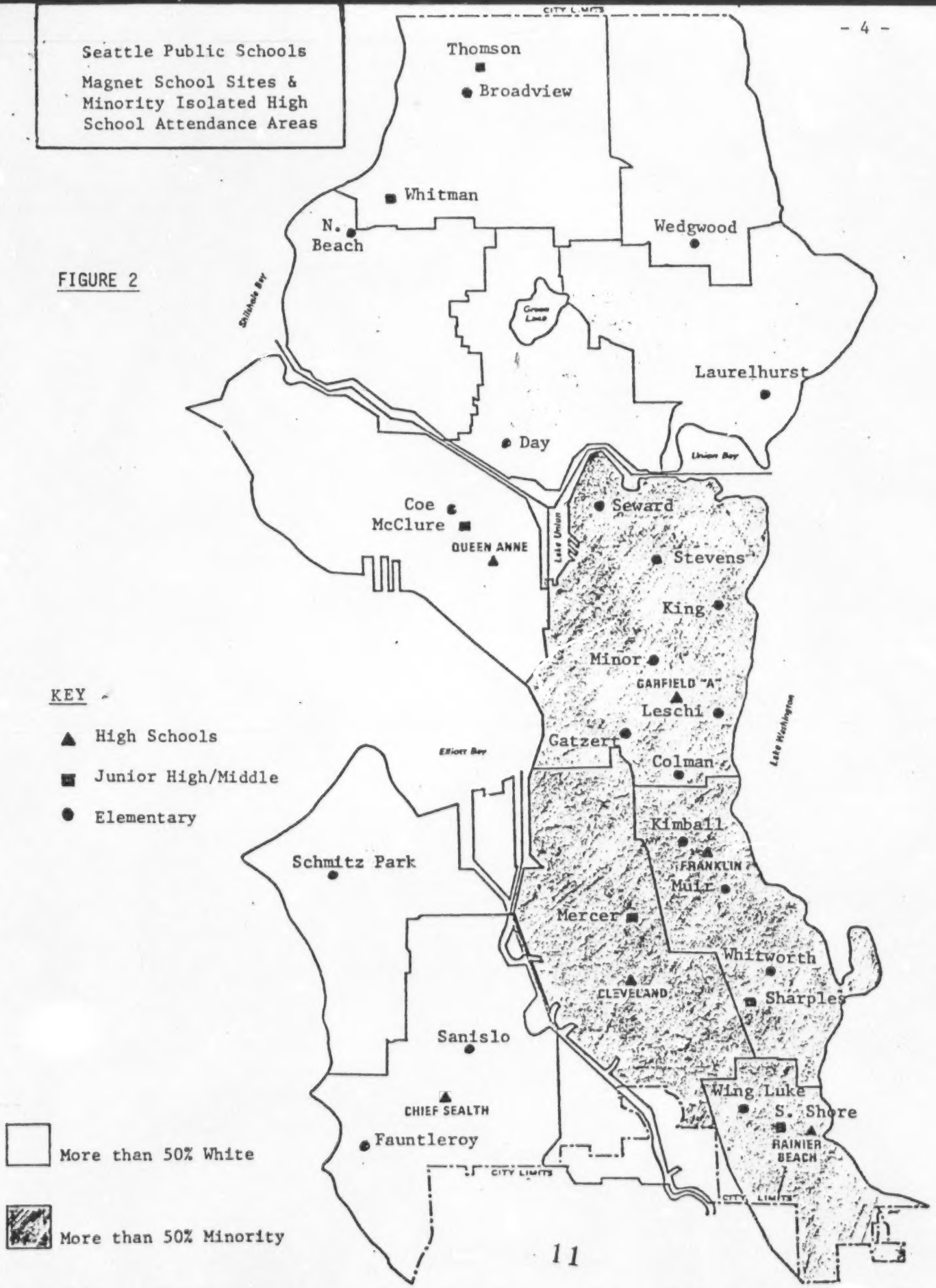
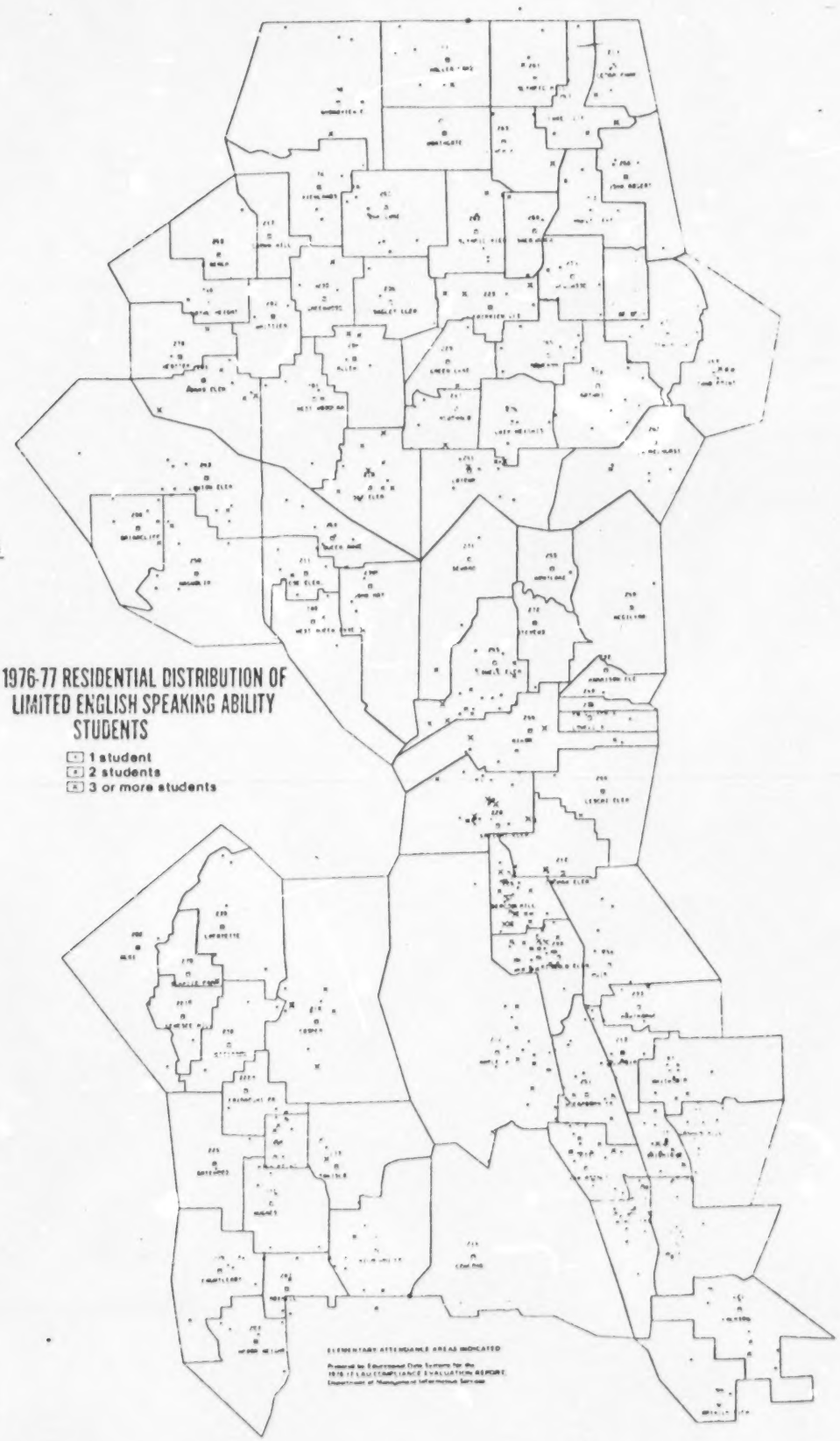


FIGURE 7 A


1976-77 RESIDENTIAL DISTRIBUTION OF LIMITED ENGLISH SPEAKING ABILITY STUDENTS
1 student
2 students
3 or more students

schools. They often depend on their children for language translation, and they view their environment as more "foreign" than perhaps do other parents. Nevertheless, there are not enough paraprofessional and certificated staff available to provide bilingual instruction at all of the neighborhood schools. Approximately 1,400 students were given instruction in 1977-78 at about 100 locations; an estimated 400 of these students were transported by the District.

Labor force. The Seattle labor force has always been strongly union-oriented. The ability of union members to achieve bargaining goals (e.g., higher wages) is influenced by their ability to convince the general public that these are legitimate goals. That task is substantially easier when a large part of the public are also union members and share the same economic outlook.

Handicapped population. A segment of the population is handicapped--physically, mentally, or emotionally--and requires special education. Some of these students require special transportation to reach their school locations. A number of medical and therapeutic institutions in Seattle provide care for exceptional children.

The existence of these institutions attracts to Seattle many parents whose children are enrolled in Special Education Programs. The University of Washington Hospitals, the Children's Orthopedic Hospital, Harborview Hospital, Seattle Speech and Hearing Center, The Mason Clinic, Providence Hospital, the Ryther Child Center, the Children's Spastic Clinic, the Northwest Center for the Retarded, the Child Development Mental Retardation Center, and the Washington State Commission for the Blind are examples of institutions which attract special education children to Seattle.

PROGRAMS

To meet the educational requirements of Seattle's widely diverse student population, a number of special programs have been instituted. The main programs affecting transportation costs are bilingual (discussed above), special education, alternative programs and desegregation.

Special Education. The District provided transportation for approximately 1,930 special education students in 1977-78. About half of these students were picked up at a street intersection by Associated chartered buses (700), or rode the Metro Transit system (300). These students are the mildly mentally handicapped, some learning/language disabled, etc., who are placed in regular classes. Costs for these students would approximate those of regular students using the same types of transportation. The remaining Special Education students (about 930) were provided door-to-door transportation services because their handicaps were the basis for deep concerns about their safety. Some of these children, for example, might fail to find their way from door to street corner. Others were physically unable to move themselves even those short distances. We will refer to costs for these children as "Special Education, extra effort."

In keeping with the intent of Federal and State legislation, the Seattle School District attempts to place Special Education students in classes as close to their homes as possible to maintain those classes with their peer (regular education) groups, and to provide an equitable distribution of classes across the District. Centers for the handicapped are not maintained except to serve small incidence populations (e.g., deaf, blind). Even in these situations (with one exception) these students are placed in schools with non-handicapped students. It is the

intent of the Seattle School District to provide the Special Education student with the opportunity to progress through the school system in as normal a fashion as possible, and to provide as much as possible for the handicapped student to interact with and be part of the non-handicapped student population.

Special Education students attended 59 schools (including the centers for low incidence handicapped) in 1977-78. In 1978-79, 56 schools will house Special Education students.

Alternative Programs. In 1977-78, about 2,500 students were enrolled in alternative programs, established to meet their special needs. These programs vary widely in purpose, e.g., drop-out prevention, structure, populations served and methods of approach. The District provided transportation for 2,273 of these students

The numbers of students transported to alternative programs are tabulated below.

TABLE 1

STUDENTS TRANSPORTED, ALTERNATIVE PROGRAMS

Drop-out Programs		
	Garfield Alternative Program	26
	Gypsy Program	23
	Indian Heritage Program	88
	Parent Continuation Program	57
	People's School No. 1	106
	Project Interchange	128
	Total	428
Low Income (Federal, State funded)		
	CAMPI Pre-School	260
	Follow Through	265*
	Head Start Pre-School	284
	Total	809
Students with police contact		
	Ballard Fremont Youth Center	3
	Mt. Baker Youth Services	25
	Parole Learning Center	45
	Total	73

*Follow Through, Broadview II, Alternative Elementary School #2, Alternative Elementary School #3, and Summit K-12 are included in desegregation transportation (n=737); others are "City-wide-2 mile."

TABLE 1 - Continued

Short-term--students under suspension; students working toward early graduation; students working toward a General Education Development (GED) Certificate		
	Interim I	71
	Interim II	25
	Interim III	20
	Total	116
Emphasis on special learning, teaching styles		
	Alternative Elementary School #1	60
	Alternative Elementary School #2	121*
	Alternative Elementary School #3	90*
	Broadview II	30*
	North Central Special Projects	14
	NOVA	130
	Summit K-12	231*
	Total	676
Other schools		
	Lincoln Evening School	10
	Total	10

In addition, Boren and Sanislo, regular elementary schools, have open enrollment arrangements approved by the Board. Although these are not alternative schools, they are included in this category in Transportation Department reports. A total of 161 students attend these schools: Sanislo 68, and Boren 93.

*Follow Through, Broadview II, Alternative Elementary School #2, Alternative Elementary School #3, and Summit K-12 are included in desegregation transportation (n=737); others are "City-wide-2 mile."

Desegregation. To meet the goals of American society that every child should have an equal educational opportunity--goals defined in the U.S. Supreme Court decision Brown v. Board of Education and elsewhere--the Seattle School District has steadily strengthened its approaches over the years to desegregate its schools. Since the neighborhoods of Seattle are largely racially isolated, each of these approaches has meant transporting children.

The Voluntary Racial Transfer program, in effect since 1966-67, has transported between 1,100 and 2,500 students each year. The Middle School Mandatory Racial Transfer program, initiated in 1972-73, annually transported about 300 to 500 students. The data are given in the table following:

TABLE 2

VOLUNTARY AND MANDATORY RACIAL TRANSFER PROGRAMS

Year	Voluntary Racial Transfers	Middle School Mandatory	Non-VRT Magnet[2]
1966-67	1,194		
1967-68	1,720		
1968-69	2,498		
1969-70	2,603		
1970-71	2,200		
1971-72	2,401		
1972-73	2,244	272	
1973-74	2,072	325	
1974-75	1,723	336	
1975-76	1,476	519	
1976-77	1,647	528	
1977-78	2,381[1]	469	513

In addition to the numbers cited in the above table, about 737 Alternative School students moved in 1977-78 under the Desegregation Program, since their movement enhanced the racial balance in the schools they were attending.

The significant growth in numbers in the VRT program in 1977-78 over the previous year is a result of the very substantial effort the Seattle School District made to improve the desegregation program by installing magnet schools and by intensifying efforts to recruit students to attend schools where their presence would enhance racial balance. (Figure 2, page 4 , shows the locations of the magnet programs.)

[1]Does not include 1,092 Magnet VRT students

[2]Students who were authorized to enroll in a magnet program although their enrollment did not improve the racial balance.

The magnet school effort did not succeed in desegregating the schools. In December 1977, the Seattle School Board adopted "The Seattle Plan" to desegregate its schools. The plan organized the city into three zones, arranging some schools into pairs or triads. For example, if school A and school B were previously K-6 schools, school A might become a K-3 school, teaching its local kindergarteners and the first, second, and third graders from both schools. School B might become a K, 4-6 school, serving its own kindergarteners, and fourth, fifth and sixth graders of both schools. Excluding kindergarteners, this implies the movement of about half the enrollments of each school involved in the plan. To effect economies of scale, District policy will be to utilize centralized student pickup and delivery points. This economy is possible because of the desegregation strategy which has been adopted; namely, to bus whole neighborhoods of children of specified age groups.

Figures 3, 4, and 5 show the zone configurations, and indicate the pairs and triads which will be exchanging students in 1978-79.

General comments on cost-efficiency. Achieving cost-efficiency is a problem in balancing two opposing forces: the need for program productivity and the need for transportation economy. At the extremes, one might imagine a District managing its affairs as though transportation costs were not important, and that program considerations received the only priority. At the other extreme, a district might maintain a first priority to reduce transportation costs; program decisions would be primarily dependent on this priority. Neither extreme would be satisfactory. In the first case, program decisions reached without regard to transportation costs will, nevertheless, eventually be limited by transportation costs. On the other hand, programs designed primarily to minimize transportation costs may fail to realize their minimum goals. There are, of course, many middle positions between these two extremes. The Seattle School District educational programs have been designed primarily to serve children's educational needs, while conserving transportation resources to the extent possible. Money saved on transportation is thus made available for instructional programs.

LEGAL AUTHORITY AND DISTRICT POLICY

WAC 392-141-010 indicates that students who reside two miles beyond the school they attend, and handicapped students defined in WAC 393-131-010(2) who reside within the two-mile limit, may be included on approved transportation routes.
WAC 392-141-035 indicates conditions for approval of transportation of students within the two-mile limit. Paragraph (a) points to the condition where transportation is necessary by reason of the condemnation or closure of a building by lawful authority.

WAC 392-141-035(c) points to the condition where the transportation is necessary to reduce educational determents (detriments) caused by racial imbalance. Paragraph (d) indicates approval may be made when a student's mental or physical condition would render the student unable to attend regular classes, or where educational advantages available to exceptional students might be realized by transporting the student. Paragraph (e) indicates approval would be forthcoming where the transportation is necessary because of existing hazardous conditions.

FIGURE 3

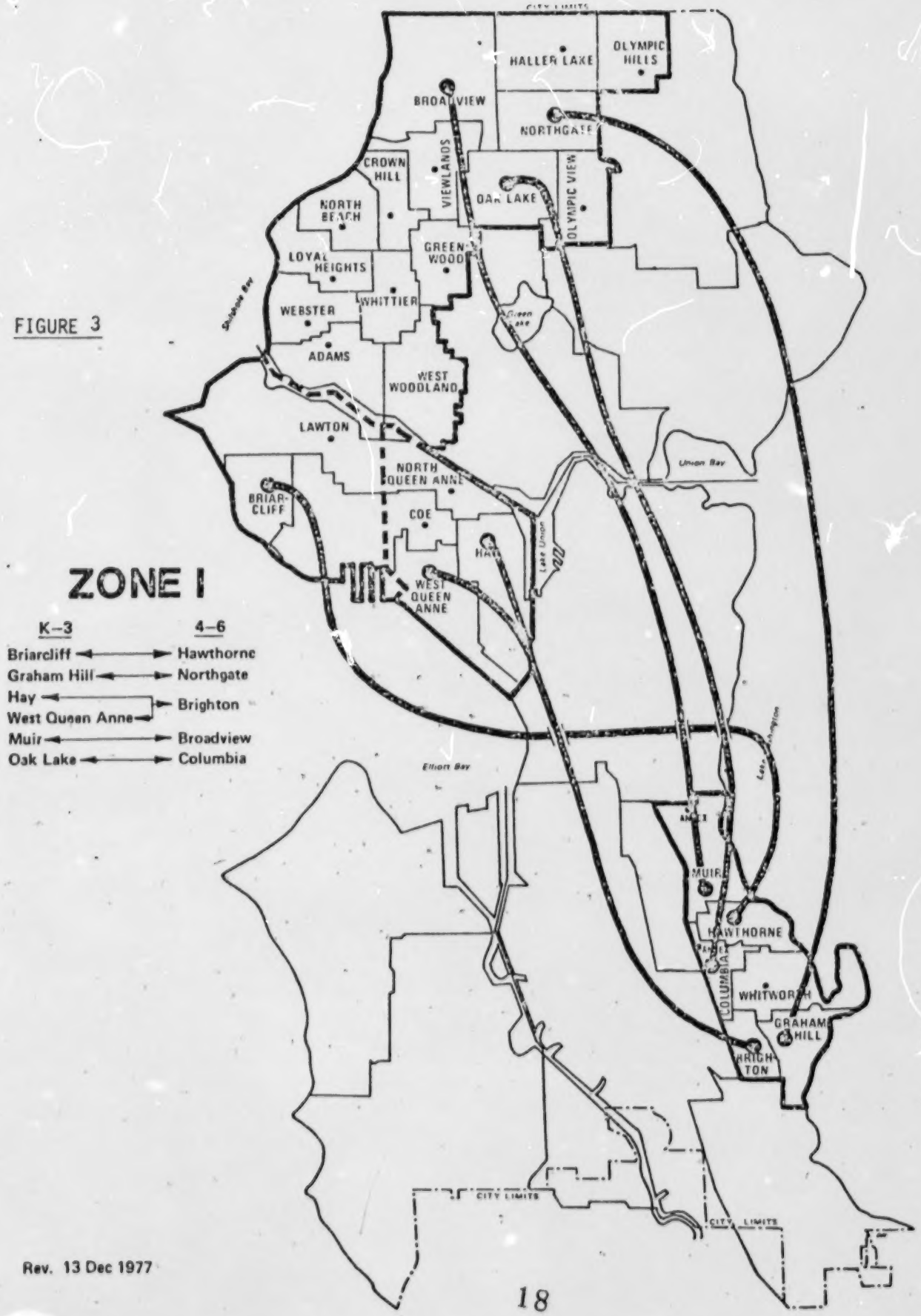


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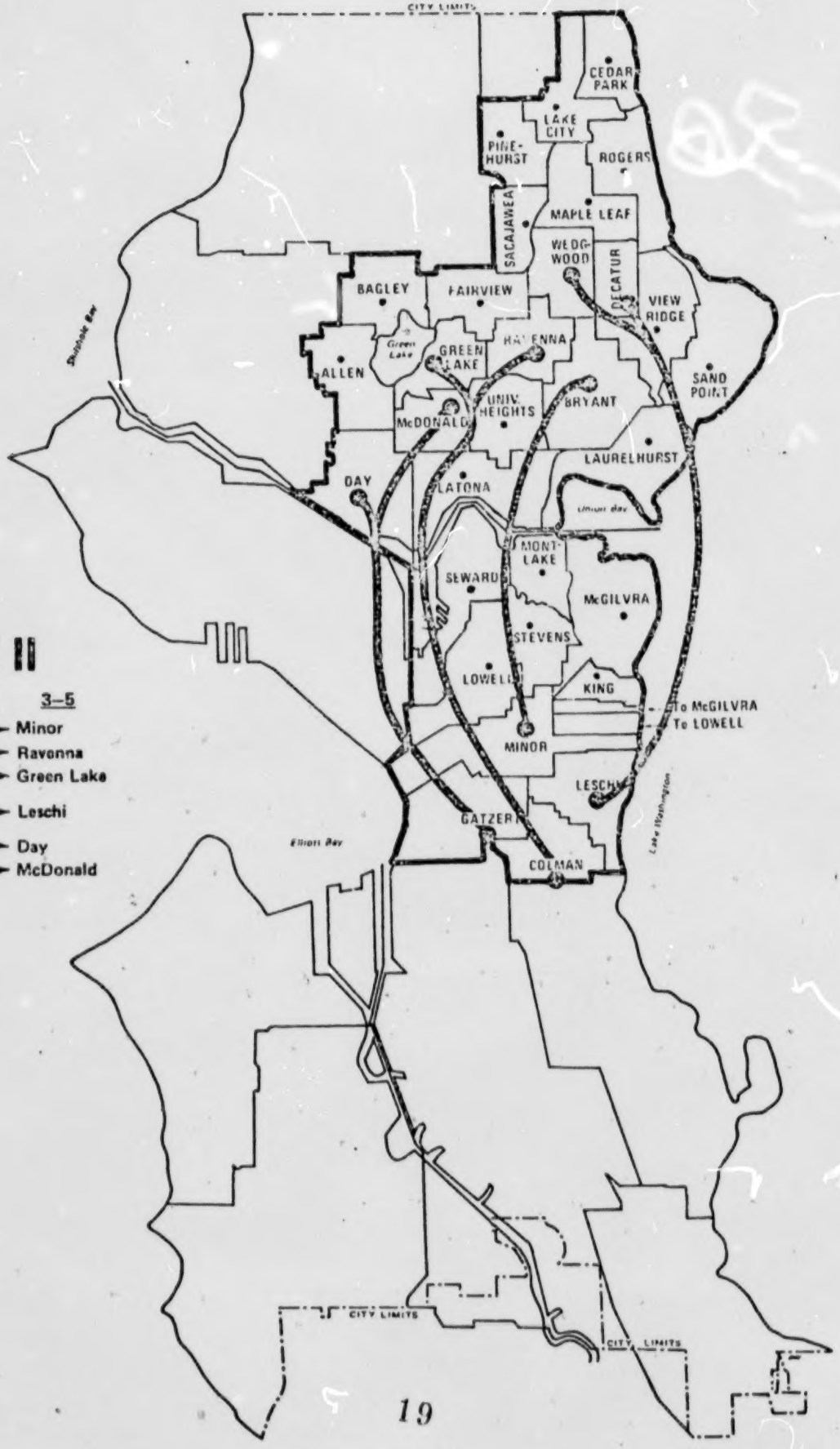
FIGURE 4



ZONE II

K–2	3–5
Bryant	Minor
Colman	Ravenna
	Green Lake
Decatur	Leschi
Wedgwood	
Gatzert	Day
	McDonald

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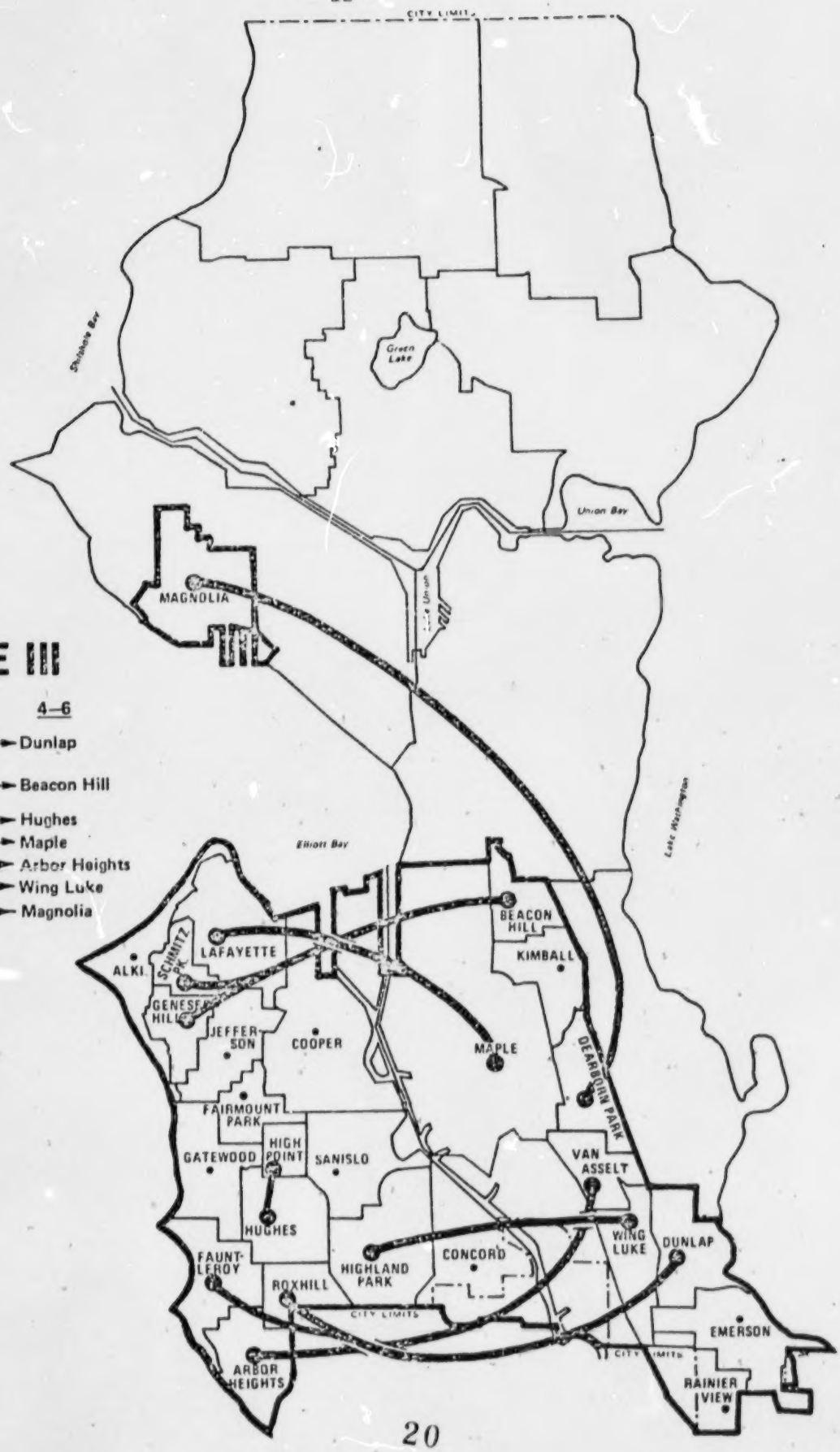
FIGURE 5



ZONE III

K-3	4-6
Fauntleroy, Roxhill	Dunlap
Genesee Hill, Schmitz Park	Beacon Hill
High Point	Hughes
Lafayette	Maple
Van Asselt	Arbor Heights
Highland Park	Wing Luke
Dearborn Park	Magnolia

Rev. 13 Dec 1977

The paragraphs cited are the basis from which the Seattle School District derives its authority to transport students to and from school, and upon which it requests reimbursement for expenses incurred. In addition to these guidelines, the Seattle School Board has established a policy that student bus rides should be limited to 45 minutes for desegregation transportation, 60 minutes for others.

TRANSPORTATION CATEGORIES

To describe the movement of pupils from home to school in the various programs described above, the following categories of transportation will be used: (1) City-wide-2 miles; (2) Desegregation, and (3) Special Education.

As noted previously, the Washington Administrative Code specifies that transportation expenses may be reimbursed for students who live beyond a distance of two miles from the school they attend. Transportation of students in this category will be called "City-wide-2 miles." Many of the alternative programs, including Head Start and CAMPI, are in this category. Transportation for bilingual students is also in this category. Similarly, WAC 392-141-035 indicates approval may be warranted where transportation is necessary to reduce educational determents (detriments) caused by racial imbalance. Transportation of students in this category will be called "Desegregation." Five alternative programs are classified under "Desegregation": Alternative Elementary School #1, Alternative Elementary School #2, Summit K-12, Broadview II, and Follow Through. Finally, WAC 392-141-035 also authorizes approval of transportation to the closest appropriate educational facility when necessary by reason of physical or mental condition of the student rendering such student unable to attend the regular public school classes. Transportation of students in this category will be called "Special Education."

Table 3 shows, for each of these categories, the budget by category, the number of pupils transported in each category, and the per-pupil cost in each category. District totals are shown. Data are given for 1976-77 (actual), 1977-78 (estimated) and 1978-79 (estimated).

Special Education. The average per-pupil cost of transporting Special Education students is the highest of the three categories. Although not all Special Education children require individual attention and assistance in boarding buses, a significant number do. For some, the distance between the front door of the child's home and the bus represents a long passage, and requires time to negotiate. This time appears to be the single factor that most significantly impacts costs of transportation of Special Education children. Distances traveled by a significant number of students to and from appropriate facilities also contribute to these costs. For example, Table 3 contains the following information for Special Education students in 1977-78:

Transportation Budget	$2,173,685
Pupils Transported	1,930
Per-pupil cost	$ 1,126

As previously indicated (p. 5), about half of the Special Education students who were transported were picked up by charter buses at a street intersection near their homes, or rode Metro Transit. The others (about 930) received door-to-door transportation because of the severity of their handicaps. Assuming that the per-pupil transportation cost of the 1,000 who did not receive door-to-door transportation was equal to that of the city-wide-2 mile student ($259), then the following data may be derived, and a cost per-pupil calculated for the transportation costs of those receiving door-to-door transportation:

TABLE 3

BUDGET BY CATEGORY, PUPILS TRANSPORTED BY CATEGORY,
PER-PUPIL COST BY CATEGORY

	1976-77 Actual	1977-78 Estimated[1]	Change Between 76-77 and 77-78	1978-79 Projected	Change Between 77-78 and 78-79
Budget by Category					
City-wide (2 mile)	$1,626,653	$1,920,330	$293,677	$2,106,480	$ 186,150
Desegregation	857,625	2,766,527	1,908,902	5,246,520	2,479,993
Special Education	1,862,252	2,173,685	311,433	2,444,000	270,315
Supervision	105,895	221,600	115,705	203,000	(18,600)
Total	$4,452,425	$7,082,142	$2,629,717	$10,000,000	$2,917,858
Pupils Transported by Category					
City-wide (2 mile)	6,456	7,424	968	6,000	(1,424)
Desegregation	2,172	4,757	2,585	12,500	7,743
Special Education	2,083	1,930	(153)	2,000	70
Total	10,711	14,111	3,400	20,500	6,389
Per Pupil Cost by Category					
City-wide (2 mile)	$ 252	$ 259	$ 7	$ 351	$ 92
Desegregation	395	582	187	420	(164)
Special Education	894	1,126	232	1,222	96
Composite (all programs)	416	502	86	488	(14)

[1]Actual expenditures will be available in September, 1978, with the Final Budget Document, F-196.

TABLE 4

SPECIAL EDUCATION, SPECIAL EFFORT

Transportation Budget	
Charter or Metro	$ 259,000
Extra effort	1,914,685
Pupils transported	
Charter or Metro	1,000
Extra effort	930
Per-pupil cost	
Charter or Metro	$ 259
Extra effort	$ 2,059

In 1978-79, the District expects to transport 2,000 Special Education children at a total cost of $2,444,000, about $1,222 per child.

Sixteen schools where centers for low incidence handicaps are maintained are listed below, and their locations are given on the map on page 16 (Figure 6). In Table 5, numbers of handicapped students enrolled are given next to the school name.

TABLE 5

SPECIAL EDUCATION
TRANSPORTATION OF LOW INCIDENCE HANDICAPPED

Hearing impaired		Orthopedically handicapped		Visually impaired	
Sandpoint	25	Lowell	70	North Queen Anne	20
Eckstein	35	Boren	8	McClure	10
Roosevelt	35	Addams	8	Queen Anne	10
View Ridge	70	Hale	8		
		Sealth	8		

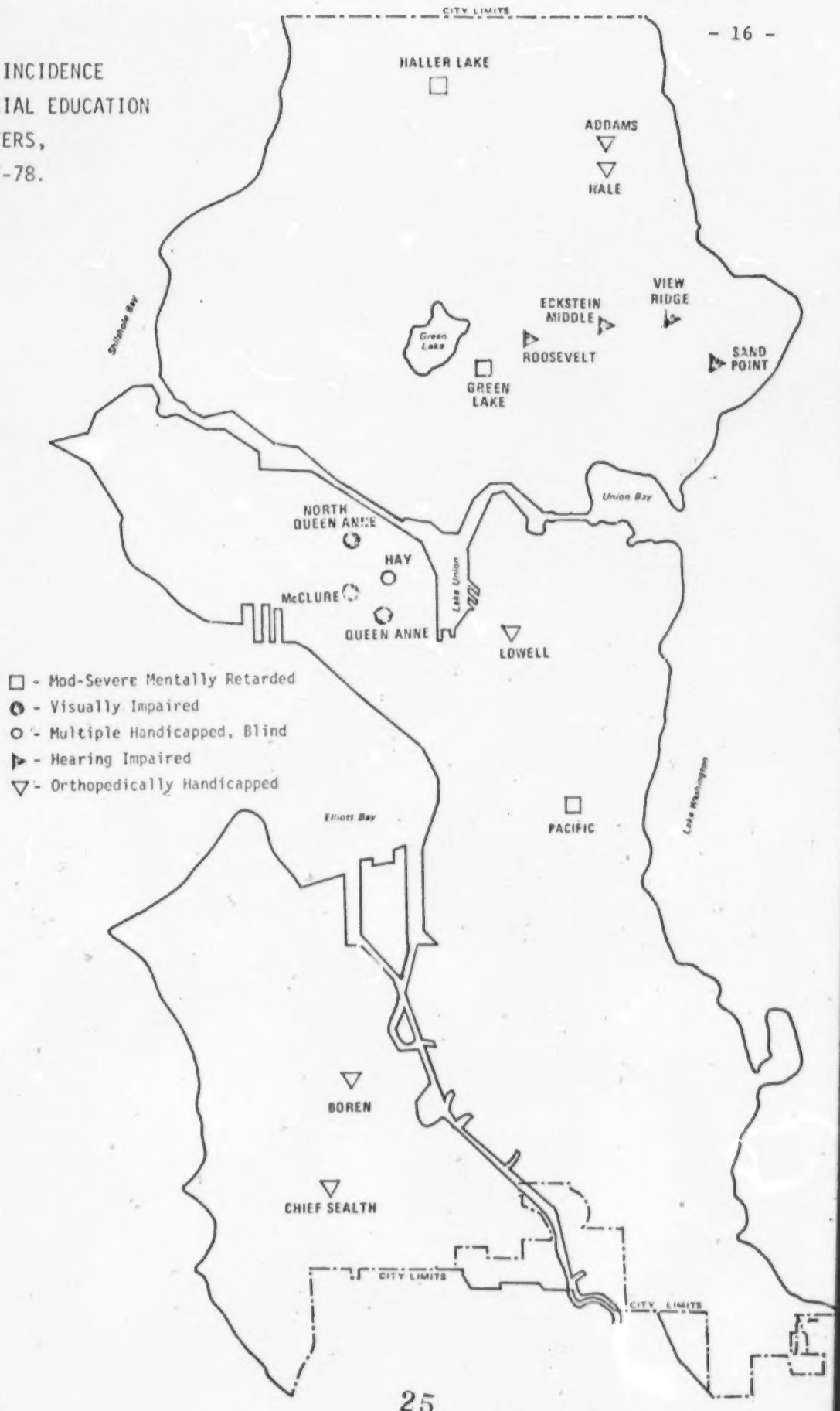
Moderately/severely mentally retarded		Multiply handicapped blind	
Green Lake	140	Hay	6
Pacific	209		
Haller Lake	24		

The numbers in the low incidence handicapped centers cited above total 684. Other Special Education students served by the Seattle School District are categorized as follows:

Behaviorally disabled	500
Mildly mentally retarded	400
Neurologically impaired	200
Learning language disabled (LLD)	1200

LOW INCIDENCE
SPECIAL EDUCATION
CENTERS,
1977-78.

FIGURE 6



Not all of these students were transported by the District. Most of these who were transported by the District were able to use the least expensive forms of transportation, charter bus or Metro transit. Some, however, were among the 930 who received door-to-door service. Some behaviorally disabled children, especially the younger ones, may not be depended on to negotiate the distance between home and the corner bus stop. Some of these children simply cannot be left unsupervised on the street. For example, a third grade mildly mentally retarded child may not find his way. The neurologically impaired child suffers from a lack of comprehension skills such as reading, listening, direction taking, and perhaps has some motor imbalance. Some of these children are not capable of handling the regular bus service, and require door-to-door attention. The younger LLD student also may have difficulty in managing the regular bus service, and therefore needs door-to-door service.

Pacific (secondary), Green Lake Elementary and Haller Lake Elementary house moderately and severely mentally retarded students. In addition to retardation, many of these students have multiple handicaps and will never be able to utilize public transportation. Students at the secondary level (Pacific) who can be trained to use public transportation are involved in supervised experiences which allow them to take advantage of the public transportation system.

Desegregation. Per-pupil costs of transportation for desegregation have been the second highest among the three categories. Those per-pupil costs were $395 in 1976-77 and $582 in 1977-78. Voluntary recruitment was used in an attempt to desegregate the schools during those years. The magnet schools, placed at strategic points in the city to induce student movement, increased the numbers moving (and consequently the dollar costs of transportation) for 1977-78 over the previous years. Figure 2, (page 4) is a map of Seattle indicating the location of schools where minority enrollment is greater than 50%; this is primarily in the Central Area and the Southeast Corridor. The magnet schools also are shown on the map. The design of the magnet program was intended to draw majority students into the predominantly minority area, and to draw minority students into the predominantly white area.

To achieve its desegregation goals, the District plans to move up to 12,500 students in 1978-79, most of them by fixed (mandatory) assignment. As previously mentioned, the strategy of moving whole neighborhoods of children within given grade groupings results in reducing substantially the number of stops per route. This in turn improves the time of the bus run, and reduces costs. Although the total cost of desegregation transportation will increase by about $2.5 million next year (about 89%), the actual number of students being transported for desegregation purposes will increase from 4,757 in 1977-78 to between 9,500 and 12,500, an increase of 100%-163%. This results in a reduction of costs amounting to $164 per pupil--about 28%.

For 1979-80, the numbers being transported for desegregation are estimated between 10,900 and 12,900, with the 1980-81 estimate between 12,555 and 13,500. This represents a significant movement towards desegregating the Seattle Schools. The desegregation plan adopted by the Board is based on mandatory assignments with optional choices for students. High estimates given here are based on assumptions of a fixed population and no exercise of options. If students withdraw from the school system in numbers greater than anticipated, or if students exercise options open to them in the desegregation plan, the numbers of students moving for desegregation will tend toward the low estimates.

Transportation less than 2 miles. Authority is found in Chapter 392 of the Washington Administrative Code to grant transportation to students within the two-mile limit. First, Seattle has a number of locations where a safe walkway to school is simply not available. The configuration of arterials and natural obstructions makes it necessary for about 200 students to travel by bus for distances less than two miles. (Authority: WAC 392-141-035(b).) Second, about 75 students are similarly transported for medical reasons. These students are not Special Education students, and their handicap might be temporary. (Authority: WAC 392-141-035(d).) Third, between 1972-1977, about 400 students in grades five and six of the middle schools were similarly transported. When the Board established the middle schools, it closed grades five and six in the schools previously attended. No students will be in this category in 1978-79. (Authority: WAC 392-141-035(a). Students discussed here, receiving transportation for distances less than two miles, have been included in this paper in the category "City-wide-2 miles."

City-wide-2 mile category. Per-pupil cost in this category has held fairly constant: $252 for 1976-77, and $259 for 1977-78. However, it is expected to increase substantially to $351 by 1978-79, primarily due to the growth expected next year in the bilingual programs, and to the characteristic problems of arranging transportation for bilingual students.

Transportation of bilingual students. The United States Office of Civil Rights (OCR) mandates that school districts provide an equal educational opportunity to students from non-English language backgrounds as required by the 1974 Lau v. Nichols Supreme Court decision. In June 1976, the District and OCR signed a Memorandum of Understanding, pledging good faith cooperation in the implementation of the District's Lau Plan, approved by OCR at that time.

In compliance with the Lau Plan and the District's desegregation efforts, in 1978-79, Limited English Fluency students (students who speak no English or less English than another language) will be served in approximately seven high schools, seven junior high/middle schools and twenty-six elementary schools. It is estimated that over 1,400 students residing throughout the District will be offered services at these bilingual centers; 400 will receive transportation from the District.

With students of Limited English Fluency speaking over 45 languages, it is difficult to hire staff to serve them. As these students were located in over 100 schools and programs throughout the District, tutors and certificated staff were required to spend a great amount of time traveling. There are not enough qualified tutors and staff available to permit this inefficient use of their time. For example, twenty-three Cambodian students were enrolled in sixteen different schools; only one qualified bilingual tutor was available to serve them. By concentrating these students into one or more centers, they can be better served by staff.

TRANSPORTATION FLEET

Table 6 displays the budget by type of transportation and the number of pupils transported, along with the per-pupil costs by category, where these can be calculated.

TABLE 6

BUDGET BY TYPE OF TRANSPORTATION SERVICES
PUPILS TRANSPORTED BY TYPE OF TRANSPORTATION

	1976-77 Actual	1977-78 Estimated[1]	Change Between 76-77 and 77-78	1978-79 Projected	Change Between 77-78 and 78-79
Budget by Type of Transportation					
Charter Services[2]	$4,196,626	$6,656,242	$2,459,616	$9,391,000	$2,734,758
Transit Passes/Tokens	149,904	204,300	54,396	406,000	201,700
Supervision	105,895	221,600	115,705	203,000	(18,600)
Total	$4,452,425	$7,082,142	$2,629,717	$10,000,000	$2,917,858
Pupils Transported by Type of Transportation					
Charter Services	8,629	12,219	3,590	16,741	4,522
Transit Passes/Tokens	2,082	1,892	(190)	3,759	1,867
Total	10,711	14,111	3,400	20,500	6,389
Per-Pupil Cost by Type of Transportation					
Charter	$ 486	$ 545	$ 59	$ 561	$ 16
Transit Passes/Tokens	72	108	36	108	0
Composite (all types)	416	502	86	488	(14)

[1]Actual expenditures will be available in September, 1978, with the Final Budget Document, F-196.

[2]Costs for taxi services have been included in Charter Services.

Students who travel by public transportation (Metro) do so with less cost, averaging $108 per student in 1977-78. The charter bus service was $545 per pupil. These differences require an examination of the causes of the relatively higher charter costs. The cost of taxi service has been included in the charter budget costs in Table 6. Since the number of students using taxi service varies, it is extremely difficult to isolate a per-pupil cost for taxi service.

Taxi service. Taxis have been used where a student was isolated from a regular route or from a Metro route, and where it was less costly to use a taxi than to send a charter bus a longer distance. To extend bus routes or to add additional buses to serve these students would have increased total costs by about $150,000 in 1977-78. Approximately 74 students were assigned to regular taxi "routes" in 1977-78. That number varied throughout the year as student needs and enrollments changed.

The amounts budgeted for taxi service between 1976 and 1979 are as follows:

1976-77	$11,543
1977-78	12,500
1978-79	69,000

No students were regularly assigned to taxi cabs during 1976-77. Students were transported by taxi cabs on an emergency or temporary basis while permanent transportation was being arranged. In 1978-79, it is anticipated that no students will be regularly assigned to taxi service.

Taxi service is a necessary part of the District's transportation program, since students need temporary transportation to and from school while regular schedules are being adjusted to accommodate a new student's arrival or assignment to a bus route. In addition, school emergencies occur which require special transportation to the student's home. Students incur injuries which require special, short-term transportation. The money tentatively allocated for taxi service in 1978-79 ($69,000) is substantially higher than previous years. This estimate was based on the fact that many students will be assigned to schools at greater distances from home because of the desegregation and bilingual programs. It is presumed that average emergency transportation costs will be higher than when students live nearer to the school.

Charter service. Table 6 shows that per-pupil transportation by charter bus costs were $545 in 1977-78 and are projected to be $561 in 1978-79.

Associated Bus Company. Some general comments should be made about the Seattle School District's contract with Associated School Bus Company. Buses are classified according to capacity: Class I is a van, holding 16 or fewer passengers; Class II holds up to 43, and Class III holds more than 44 students. A "lift" bus is equipped to board a student and wheelchair. The basic contract rates, including both the bus and driver, are displayed below. The contract provides for a four-hour minimum for each bus and driver.

TABLE 7

ASSOCIATED SCHOOL BUS COMPANY CONTRACT RATES, 1977-78

	1977-1978		1978-1979*	
	Four-hour Minimum	Hourly Rate Beyond Minimum	Four-hour Minimum	Hourly Rate Beyond Minimum
Class I	$77.95	$11.65	$81.56	$12.19
Class II	80.95	12.65	89.31	13.73
Class III	87.95	12.95	98.09	14.61
Lift	84.95	12.65	90.61	13.73

The four-hour minimum provides for two trips out of the bus barn, in any time combination (one hour and three hours, for instance). The minimum affects costs only when the four hours are not used. In point of fact, the minimum is used, insofar as possible. If program starting times could be staggered more than present schedules allow, there would be a resulting economy realized from using the lower hourly rate, since fewer buses could be used for longer time spans. For example, if school A, B, and C begin at the same hour, different buses must be used. If the school schedules were coordinated, it might be possible to have the same bus do the runs in sequence.

In 1977-78, junior and senior high schools operated between 8:00 a.m. and 2:30 p.m. Elementary schools operated between 9:00 a.m. and 3:00 p.m. Middle schools operated between 9:00 a.m. and 3:30 p.m. This scheduling has allowed the use of the same bus for elementary and secondary school transportation, resulting in maximum usage within the four-hour minimum specified in the contract.

In 1978-79, middle schools, junior and senior high schools will open at 7:45 a.m. and close at 2:15 p.m. Elementary schools will open at 9:10 a.m. and close at 3:10 p.m. This scheduling will make it possible to transport the large number of students the District's desegregation and other programs will require with the available number of buses. There will be some economy achieved under the contract as the four-hour minimum period is passed and the lower hourly rate takes effect.

Metro. The current charter bus contract (1977-78) with Metro calls for the payment of $26.29 per hour. Metro provides two categories of charter service, "combinations," where the scheduled use of a given bus is dovetailed to fit regular scheduled Metro runs, and "tripper service," where the bus leaves the barn for the sole purpose of meeting the charter obligation. The rates for both kinds of service are the same. On the combination service, however, a greater economy is realized, since the time occupied by the empty bus in going to and from the barn is not charged. On the "tripper" service, a two-hour minimum applies, and "deadhead" time--to and from the barn--is chargeable to the District.

*1978-79 figures adjusted to include gasoline for comparability with 1977-78 data.

The hourly rates effective in 1977-78 and in 1978-79 for Associated and Metro charter service applicable to the minimum guaranteed time are displayed below for comparison:

TABLE 8

BASIC HOURLY RATE COMPARISON,
ASSOCIATED, METRO, 1977-79

	Passenger Capacity	1977-1978		1978-1979*	
		Associated	Metro	Associated	Metro
Class I	up to 16	$19.49	NA	$20.39	NA
Class II	17 to 43	20.24	NA	22.33	NA
Class III	44 and up	21.99	$26.29	24.52	$18.00
Lift	17	21.24	NA	22.65	NA

Metro charter contract, 1978-79. The Seattle School District has completed negotiations with Metro for the terms of its contract for charter bus service for next year. Under terms of that contract, approved by the Metro Council, Metro will furnish up to 70 buses at an hourly rate of $18.00 per hour. Fifty-five of these buses will be used on the elementary school routes with rates chargeable on the "combination" basis mentioned previously.

A comparison of the rates charged by Associated and by Metro shows that Associated has increased its rates in keeping with the general inflationary trend. Metro, on the other hand, has found ways to incorporate some of the Seattle School District traffic into its (Metro's) off hours. This will be an important factor in reducing the per-pupil costs of transportation in the District. The Seattle School District welcomes this contract because it provides a competitive standard for Associated.

While it is useful to look at per-pupil costs by transportation type, it should be remembered that program costs previously mentioned are contributing to these costs. Special Education children, for example, are transported primarily by charter bus. The total dollar charge for the lift bus is quite high. It takes a long time and much individual attention to get these children to the bus, safely aboard, and safely delivered to the school.

The capacity of a lift bus provides for 5 wheel chairs, 1 gurney, and 12 other passengers. The gurney is a wheeled cart on which the child rides in a reclining position. The lift obviously is needed for such a cart and for the wheel chairs, and is frequently needed for the other passengers. Some children have walking aids, for example, which require the lift. Children with heart problems, recent surgery, or with a variety of other problems also require the lift.

*1978-79 Associated figures adjusted to include gasoline for comparability with 1977-78 data.

Per-pupil costs for charter services are higher than for Metro passes, and one may well wonder why Metro passes are not used more. The Seattle School District has provided charter services in response to felt needs of the public. Public transportation is not feasible for all children, particularly younger students. Metro has its own "rush hour" which coincides, somewhat, with hours when school children would ride the Metro bus. Metro passes do not provide the dependability of scheduled charter service as it may be necessary for a fully loaded bus to pass a given point, unable to take on additional passengers. Metro schedules and routes are not always fully compatible with student needs.

Table 9 illustrates the number of units in service in the entire transportation fleet. The last line of the table indicates the number of students using Metro passes.

The Associated Bus contract may seem expensive. However, Seattle's labor costs are higher than elsewhere in the State. The District has unsuccessfully initiated nation-wide bid advertisements for charter bus service to attract competition in this field. However, legislation limits contracts to only one year. Start up costs for a new company would be prohibitively expensive. District administrators believe that legislation permitting transportation contracts of five years would attract more firms to bid competitively, since they would then have the ability to amortize the initial capital investment necessary for a successful new bidder.

Contracting versus non-contracting cost comparisons. Because of differences in accounting practices in the private and public sectors, a direct cost comparison between a contracting and a non-contracting school district transportation program is difficult.

Governmental accounting practice requires that bus acquisition costs be accounted for in the fiscal period in which the expenditure occurs. Private sector accounting practice spreads the cost of acquisition over the expected life span of the bus. If a comparison is desired between the cost of a contracting district transportation system and a district-owned transportation system, an adjustment must be made to reflect this difference in accounting practice. A straightforward way of accomplishing this would be to subtract out the cost of depreciation and interest from the contracting school district costs and subtract out the cost of bus acquisition in the cost of the school district-owned transportation system.

There is another factor. If a school district contracts with a private concern to supply pupil transportation, a normal expectation of the contractor would be to derive revenues in excess of costs before taxes, i.e., profit. A district operating its own transportation system does not make a profit. Thus, the contractor's profit is a factor which contributes to Seattle's transportation costs.

Comparability of other districts in Washington to Seattle School District. The size, complexity, geographic features, ethnic and cultural diversity of the Seattle School District suggest that it is unique in the State of Washington. Cost comparisons between districts dissimilar in any of the main factors which make Seattle different have demonstrated the uniqueness of Seattle.

TABLE 9

SEATTLE SCHOOL DISTRICT
TRANSPORTATION FLEET

Use by Type of Transportation	1976-77 Actual	1977-78 Estimated[1]	Change Between 76-77 and 77-78	1978-79 Projected	Projected Change Between 77-78 and 78-79
	number of buses				
Associated Charter Buses					
Class I	135	171	36	131	(40)
Class II	36	46	10	63	17
Class III	99	137	38	220	83
Lift	18	18	0	19	1
Sub-Total	288	372	84	433	61
Metro Charter Buses	27	7	(20)	70	63
Total Charter Buses	315	379	64	503	124
Taxi Cabs	0	52	52	0	(52)
	number of students				
Metro Tokens/Passes	2,082	1,892	(190)	3,759	1,867

[1]Actual expenditures will be available in September, 1978, with the Final Budget Document, F-196.

Estimated capital investment required to become a non-contracting district. If the Seattle School District were to convert from a contracting to a self-operating district, this would require an initial capitalization that the district cannot afford. An estimate of the costs, given below, is made under the following assumptions:

- the bus depot, maintenance shed and transportation division administrative offices would have to be at a single central location within the district;
- the facility would be owned by the district; and
- Metro Transit would be used at the level planned for 1978-79.

Not included in the estimate are costs associated with operations, maintenance equipment, shop supplies, utilities, or engineering or architectural fees.

Under these assumptions, the total capital cost of the facility would range from $18.7 million to $19.8 million. Individual items included in the estimate are the following:

	Cost
• 8 to 12 acres of land at $110,000 to $160,000/acre	$880,000 to $1,920,000
• 144 Class I buses @ $20,000 69 Class II buses @ $25,000 242 Class III buses @ $50,000 21 Lift buses @ $30,000	$17,334,000
• 3,600 to 4,400 sq. ft. of office space at $57.5/sq. ft.	$207,000 to $253,000
• 7,400 to 8,600 sq. ft. of maintenance shed at $38/sq. ft.	$281,000 to $326,800

SUMMARY

Seattle's transportation costs have been grouped in this paper according to three main categories: City-wide--2 miles, desegregation, and special education. Special Education costs are high (projected for 1978-79: $1,222 per pupil) because of the wide dispersion of the students, the door-to-door service required, and the resulting consumption of time. Per-pupil desegregation costs under the current magnet program are higher than those projected for next year ($420 per pupil), when the pair/triad desegregation strategy will result in large numbers of children being transported between essentially two points. The larger numbers being transported will mean both success for the desegregation program and higher total transportation costs, but a reduction in the per-student cost of desegregation transportation. In Seattle, desegregating schools must be accomplished by moving students, since ethnic minority groups tend to be concentrated in particular neighborhoods.

City-wide--2 mile per pupil costs are anticipated to rise next year to approximately $351 because of the District's obligation to provide bilingual education for children of limited English speaking ability. Expenses rise rapidly because students having like needs (the same language, for instance) do not necessarily reside in the same area; students are dispersed, and routings needed to gather them become long and complex.

The average speed of buses in Seattle is only 12.5 MPH, due to stop signs and other traffic interruptions. This is a significant factor in Seattle transportation costs. The city's hour-glass shape means that thru-traffic flows into a fairly constricted zone where traffic snarls are frequent, often slowing traffic further.

Extensive use of Metro regular transit routes is not a viable alternative. WAC 392-141-0 requires that routing "shall be established in a manner which safely and efficiently serves all passengers." Presently existing Metro routes are not compatible with this requirement.

The initial capitalization cost of a Seattle School District owned and operated bus fleet would be approximately $19 million.

Differences in the methods of accounting for expenditures between a non-contracting and a contracting district should be accommodated in making cost comparisons.

The Seattle School District's size, complexity, geographic features, ethnic and cultural diversity indicate that its operating costs are not comparable to other school districts in Washington.

The Seattle School District welcomes the opportunity to review its transportation program in depth with state auditors and legislators. The District itself has both an Administrative Review Committee and a Citizens' Transportation Advisory Committee. The purpose of both groups is to review and make recommendations on the transportation program with the intent of improving its cost efficiency.

RECOMMENDATION

The Seattle School District would like to explore reducing legal restrictions relating to one year contracts and possible state or federal assistance which could further increase student use of public transit.

11/6/78

ADDENDUM

A friendly reader of this paper computed the theoretical capacity of the bus system by taking the number of buses shown in Table 9 times the capacity of each bus. The number was doubled since each bus might be used for two runs daily. The result was a hypothetical system capacity of about 40,000 students. At most, it is planned to transport about 20,500 students. Why, then, are so many buses unfilled?

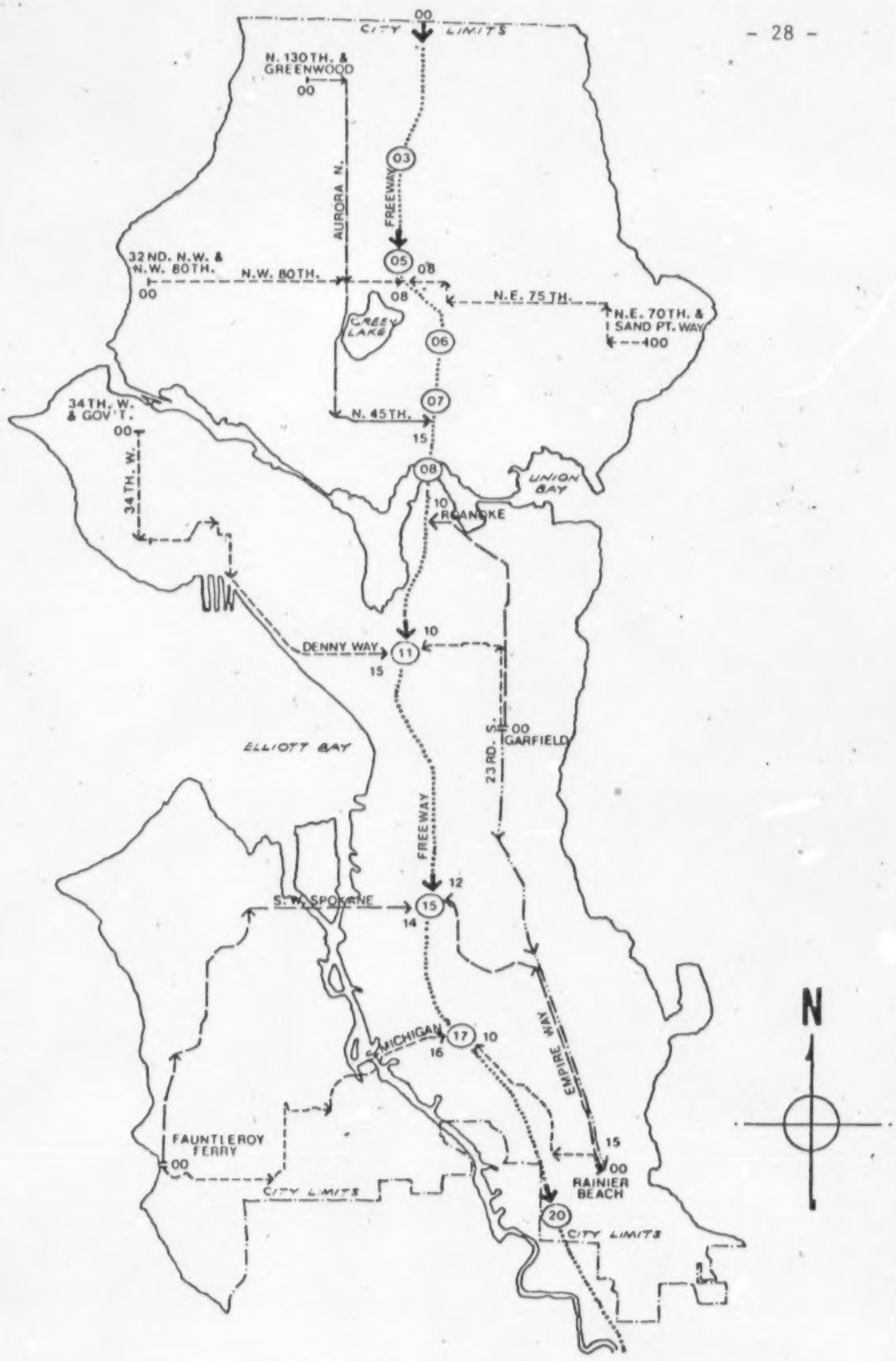
The primary explanation is given in this paragraph. A bus can be used for two runs when the schedule of the two destination schools permits arrival at different hours. The same size bus, however, may not be required for both runs. Since the District guarantees a four-hour minimum for each bus that is used, it is more economical to use a large bus on both runs. Part of the bus may be empty on the smaller run. If the goal were efficient use of bus space rather than dollar savings, the large bus might be returned to the barn, and a smaller bus used on the smaller run. The buses would be more nearly filled, but the minimum four-hour charge on both buses would apply, thus causing unnecessary expense.

Times and Distances

Difficulties of establishing routes under existing constraints contribute to the problem of filling every bus on every run. It is difficult to display the complexity of the problem of establishing routes for 20,500 children who are scattered over a 81.7 square mile territory, and who travel daily to about 150 different destinations. Travel time is limited, usually to 45 minutes. The distances to be traveled and actual bus speeds (about 12.5 miles per hour, average) complicate the routing problem, and contribute to the dollar costs. The dispersal of the children to be transported to a given school is a very significant factor, and will be discussed further in these pages.

Figure 8 indicates ideal travel times across the City of Seattle. The time measurements were made in early afternoon during good weather, and no traffic tie-ups were experienced. Rush hour conditions were not encountered on the test runs.

FIGURE 7



IDEAL TRAVEL TIME
VIA MAJOR ARTERIES
(IN MINUTES)

Entering the City from the north via I-5, the map indicates a three-minute trip to Northgate, five minutes to 80th street, eight minutes to the ship canal, and about twenty minutes to the south City limits. Arterials feeding I-5 are indicated, along with their travel times. From 34th and Government Way in Magnolia to Denny and the Freeway requires fifteen minutes, under good conditions. Similarly, from the Fauntleroy Ferry to I-5, travel time is fourteen minutes.

Although the ideal conditions described for the test do not always prevail in actual school bus driving, the map is a good basis from which to construct preliminary schedules. The accepted rule of thumb is to add five minutes per stop to estimate required travel time within neighborhood residential areas. More time is required when the children are more widely dispersed.

Five maps (Figs. 9, 10, 11, 12 and 13) are included to illustrate the problem of transporting Seattle children for minimum costs. Figure 9 illustrates the number of children outside the two-mile radius being bused to Kimball. The lines do not indicate bus routes; a line connects another school with Kimball if children living in the other school's vicinity are being transported to Kimball. The map is intended to show the scattering of children's residences who attend the Kimball school. The reader should be aware that the children are more widely dispersed than the map shows. For example, three children who attend Kimball live in the Broadview area; in all probability, they do not live in the same house. Similarly, ten are shown in the Bryant neighborhood. They are not all picked up at the same corner bus stop. The purpose of the map is to show the wide dispersion of the students, and the time and space relationships in collecting the children and transporting them to their destination within a 45-minute time span.

Two circles are drawn on the map, centered at Kimball. One is called a 15-minute circle, indicating the fastest time to Kimball from any point on that circle is about 15 minutes. Travel time from points outside the circle to Kimball take longer. A 20-minute circle is also shown. It is instructive to identify hypothetical bus routes, given the constraints ot the problem. The problem is to assign children to buses economically, and, allowing five minutes travel time for each stop, get the children safely to their destinations in 45 minutes. Various solutions present themselves, but the total number able to enter each bus under these conditions

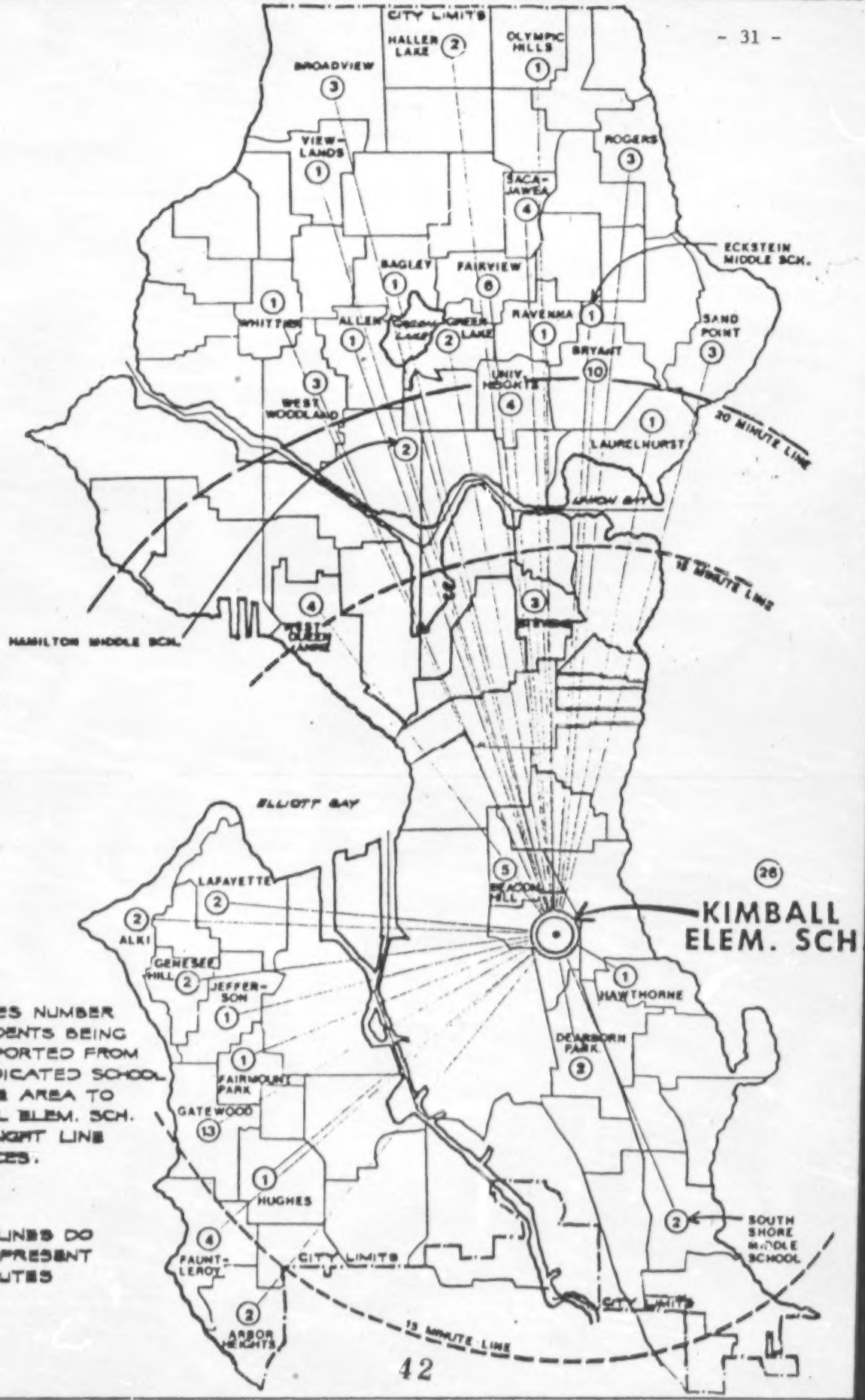
is not large. *This fact--the presence of a number of children, relatively isolated from the school they attend and isolated from each other--detracts from the cost efficiency of the transportation system.* Figure 10 is a map indicating the times and distances involved in transporting children to Stevens. The 15-minute circles are distorted from their normal shape by the Duwamish Waterway, the ship canal, and traffic arterials between Magnolia and Queen Anne Hill.

Just as important as total distances from school are the distances between students who will share the same bus. Consider the children, who, on this map, are very isolated. One in Fauntleroy, one in Maple, one in Dunlap, four in Muir. Because of the distances between these children, a trip planned to serve them would constitute a whole route. The per-pupil costs are high.

Each of the elementary attendance areas occupies about a square mile. High cost-efficiency exists when children are closely spaced on the map, and the distance to school is not great. Here, large buses can be filled in relatively shorter times. At greater distances from a school, the students are more dispersed, travel time between stops is much greater, and the time required for the trip to the school is longer.

Figure 11 indicates similar information for Hamilton Middle School. Figure 12 shows related information for Lincoln High School. At first glance, the transportation of middle school students may appear to be simpler, since fewer lines are shown. However, the line connecting Hamilton with Wilson is numbered "159" for the number of students in the Wilson area who are bused to Hamilton. These students, of course, are dispersed over the entire Wilson school area. However, per-pupil costs are lower when students live within shorter distances of each other. There is a considerable level of isolation, insofar as economical bus routes are concerned, among the students living at greater distances. Consider the students in the South end; one in Denny, four in Mercer (who are themselves scattered), two in Sharples, one Brighton student, and two from South Shore. These students are so isolated that the usual 5-minute per stop rule cannot apply.

FIGURE 8

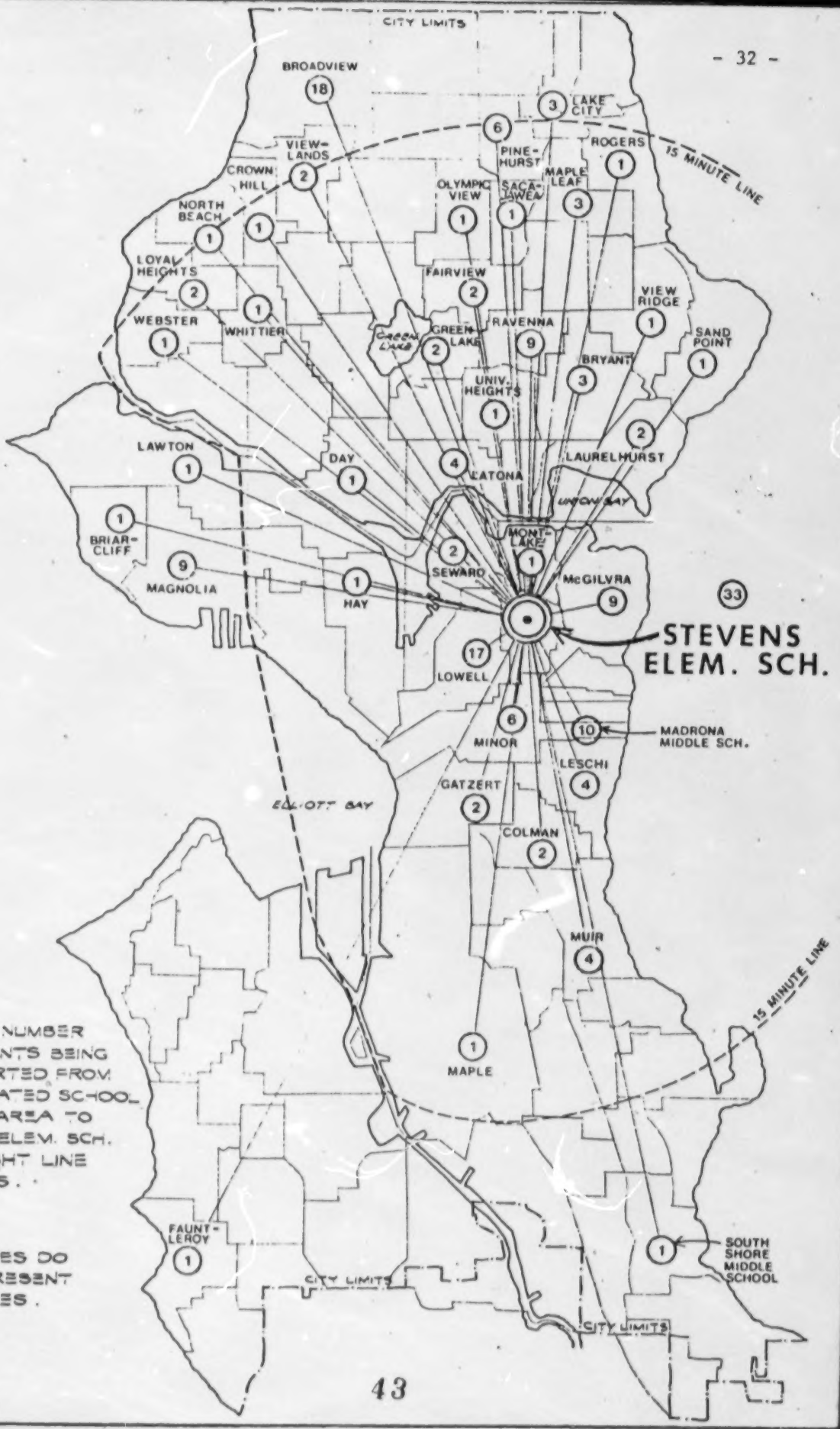


(3) INDICATES NUMBER OF STUDENTS BEING TRANSPORTED FROM THE INDICATED SCHOOL SERVICE AREA TO KIMBALL ELEM. SCH. IN STRAIGHT LINE DISTANCES.

NOTE :

THESE LINES DO NOT REPRESENT BUS ROUTES

FIGURE 9



(3) INDICATES NUMBER OF STUDENTS BEING TRANSPORTED FROM THE INDICATED SCHOOL SERVICE AREA TO STEVENS ELEM. SCH. IN STRAIGHT LINE DISTANCES.

NOTE:

THESE LINES DO NOT REPRESENT BUS ROUTES.

Figure 13 shows the transportation pattern of students attending Broadview Elementary School. Broadview and Muir have been paired in The Seattle Plan for school desegregation; thus 269 students from the Muir Elementary School travel each day to Broadview (a comparable number travels from Broadview to Muir). There is a large enrollment of students in Broadview from many areas of the city. In this example, the dispersion of students contributes heavily to the total transportation cost. Reference to the 20-minute line indicates it would be difficult to collect the five students living south of Muir on one bus and get them to Broadview in the allowed 45 minutes.

Five schools have been presented. While not exact replicas of the other schools, they are representative of all the 83 elementary and 28 secondary schools. Kimball is an all city Magnet, and in some sense, is unique. It enjoys a reputation for having an excellent program, a sensitive, understanding staff and administration. Its minority composition has been about 30-35%. Stevens also has a reputation for carrying a strong program. There has been a strong alternative element, and some people view it as a good way to gain an education tailored to their children's needs. Hamilton is centrally located, and is convenient for persons who wish to make a transfer. Under the Voluntary Racial Transfer plan, this has been encouraged. Wilson (and Gatzert, grade 6) were closed under the desegregation plan. These students attend Hamilton.

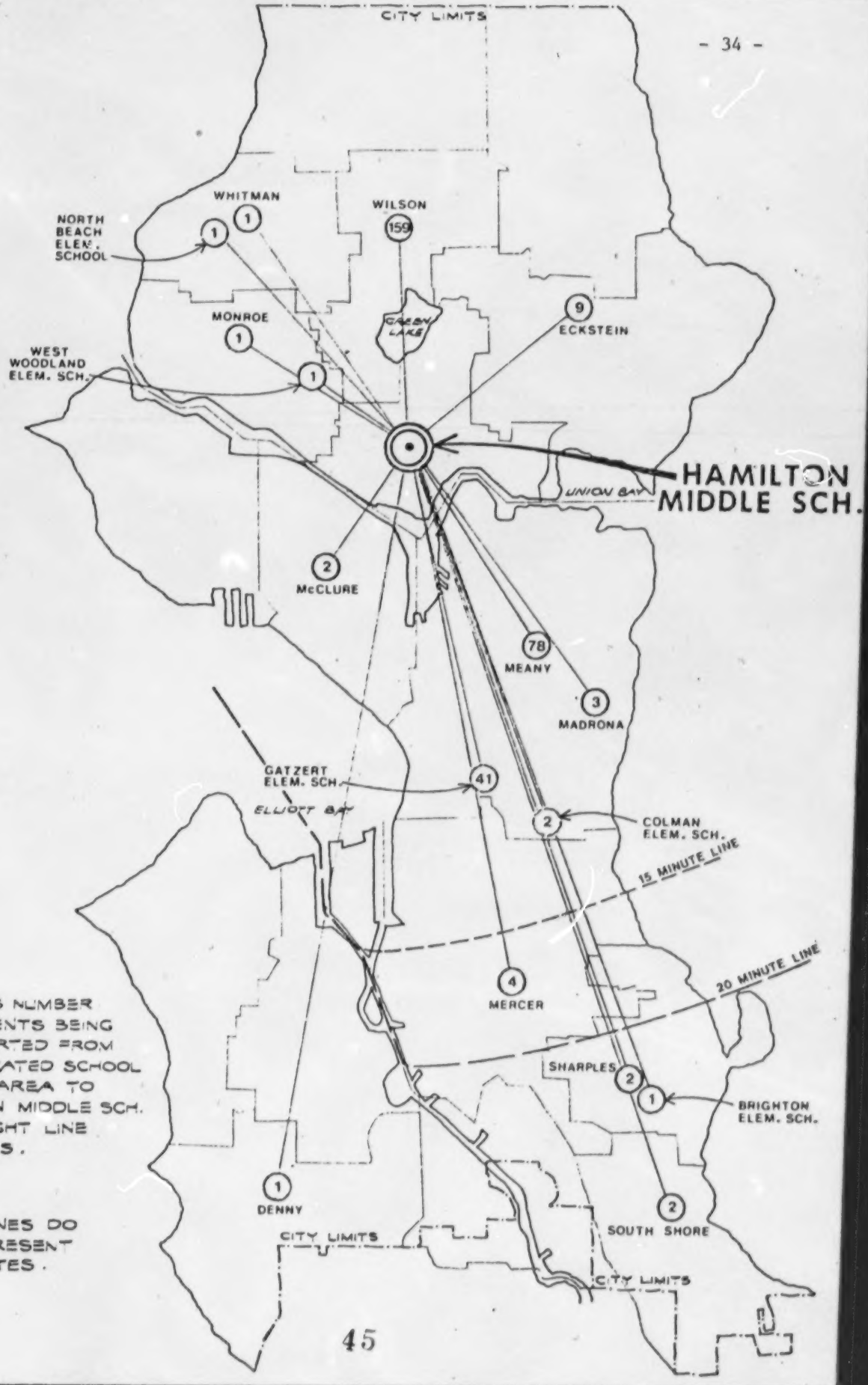
Lincoln draws students from across the city because it has a good record for working with minorities, and it is conveniently located.

These five schools are presented to indicate the nature of the problem in providing transportation to Seattle school children. Not all the schools attract students from such widely dispersed areas, yet one may conceptualize the problem by mentally superimposing the Stevens and Kimball maps, and then visualizing similar patterns centered at each of the other schools.

Five schools have been presented. These are representative of the elementary and secondary schools. Not all attract students from such widely dispersed areas, yet one may conceptualize the problem by mentally superimposing the Stevens and Kimball maps, and then visualizing similar patterns centered at each of the other schools.

What alternatives may be considered by which more efficient routing may be achieved?

FIGURE 10



(3) INDICATES NUMBER OF STUDENTS BEING TRANSPORTED FROM THE INDICATED SCHOOL SERVICE AREA TO HAMILTON MIDDLE SCH. IN STRAIGHT LINE DISTANCES.

NOTE:

THESE LINES DO NOT REPRESENT BUS ROUTES.

FIGURE 11

(3) INDICATES NUMBER OF STUDENTS BEING TRANSPORTED FROM THE INDICATED SCHOOL SERVICE AREA TO LINCOLN HIGH SCH. IN STRAIGHT LINE DISTANCES.

NOTE:

THESE LINES DO NOT REPRESENT BUS ROUTES.

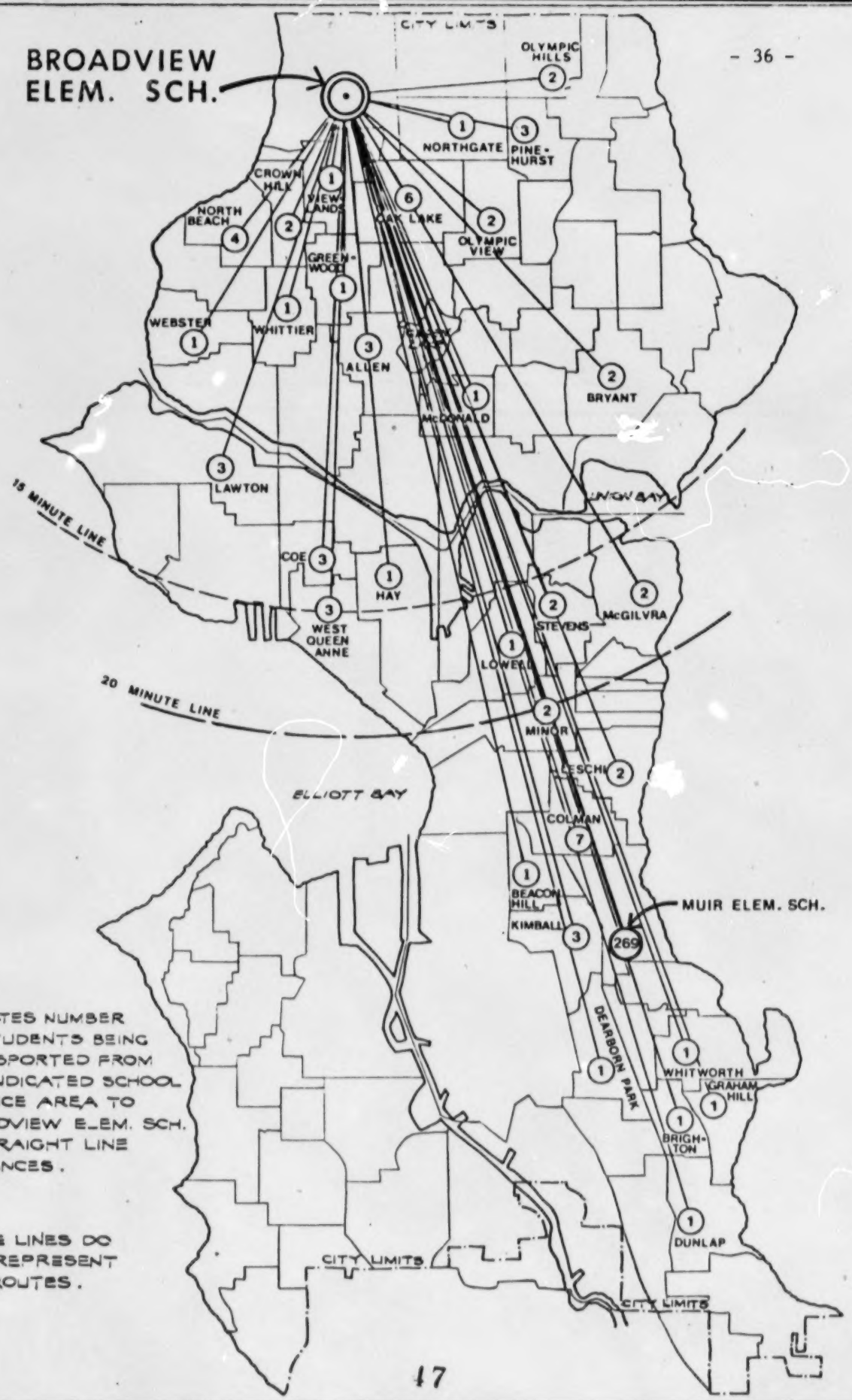


FIGURE 12

(3) INDICATES NUMBER OF STUDENTS BEING TRANSPORTED FROM THE INDICATED SCHOOL SERVICE AREA TO BROADVIEW ELEM. SCH. IN STRAIGHT LINE DISTANCES.

NOTE:

THESE LINES DO NOT REPRESENT BUS ROUTES.

Could buses drop students at first one school, then another? Since the schools open simultaneously, arrivals would have to be timed to match the opening; buses could not be used this way.

Could a transfer system, similar to the Metro transfers, be used on the school buses? For a transfer system to be viable, it would have to provide for general transferability. This would quickly fail if a bus happened to be late at the transfer point, since children would miss a bus, and another one would not come along. A transfer system would rapidly consume the transit time available.

Could longer times be allowed to make the runs, and so be able to use larger buses? With a 45-minute time, children now spend 1.5 hours daily on the bus. Without doubt, greater cost-efficiency could be obtained if children were required to remain on the buses for longer periods. This option is not likely to receive approval.

Or are there other, more fundamental changes which could be adopted which would provide equal educational opportunities to Seattle children and also minimize time spent on the buses as well as bus costs? This question is one of fundamental policy, and will require the efforts of a thoughtful public, Board, and Legislature to provide an answer.